

## Effectiveness of Experiential Learning Approach for Teaching Education in Higher Secondary School

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### Abstract

Experiential learning is a representative of a fundamental educational philosophy that emphasizes active engagement in learning and transform the teaching and learning dealing with technology and creates productive settings. The primary objectives of experiential learning are to provide students with practical insights into the complex world for exploration and critical thinking of complex issues. It is a process of experience that focuses on real-world learning through reflection on doing. The purpose of benefits and outcomes of experiential learning for students and provide a comprehensive understanding of how this approach can be included in the education subject to enhance students' outcomes and prepare them for success in an evolving society. For the purpose of the study a quasi-experimental research design was adopted where 100 students were selected and selected students were divided into two groups as experimental and control groups. Result reveals that the significant relations with experiential learning, which led students to connect the theorem with its execution, increasing engagement, fostering personal growth and self-awareness, and unlocking potential outcomes.

*Keywords:* Experiential learning, Educational Philosophy, academic achievement, teaching method.

### Introduction

Experiential learning is a philosophy and methodology in which educators

purposefully engage with students in direct experience and focused reflection in order to increase knowledge, develop skills and

clarify values. Fundamental educational philosophy that represents Experiential learning is a learning procedure employing direct and active participation. It emphasizes the concept of “Learning by Doing,” where knowledge and skills are acquired and synthesized through active participation. The perspective of “Learning by Doing” emphasizes fast advancement and allows learners to use the knowledge acquired by them in the classroom or their environment. Integrated experiential learning adds valuable supplement to present education system in higher education by interacting with conventional learning methods.

The primary objective of experiential learning is to provide students with practical insight into “world readiness. “This involvement helps to build the necessary knowledge as well as critical skills and facilitates the establishment of professional connections that transcend fully theory-based understanding. This focus on real-world applications is a crucial response to adopting experiential learning. It also aims to provide students with immediate experiences of their theoretical knowledge. These techniques may encourage active participation, critical

thinking, problem-solving, and collaborative activity for the students.

India's higher education system is considered one of the largest globally in terms of student enrollment. With its expanding framework and increasing number of colleges and universities, India has the potential to become a significant educational hub.

It is very much important to nurture a well-educated and capable workforce to advance India's economy and aid the nation's transition from a developing to a developed status. Higher education system must move away from its conventional focus on content knowledge and concentrate on fostering skills. These will empower students to manage their own learning, tackle important academic challenges, and build knowledge.

The purpose of the study was to see the advantages and results of experiential learning for students, and the challenges to implementations. This study also provides thorough understanding of how experiential learning can be better integrated into academic for improve student outcomes and prepare them for success in an evolving society. With Compared to traditional methods, experiential learning leads to deeper learning outcomes for students.

**Objective of the study:**

- To evaluate the experiential learning's effectiveness for teaching education in terms of the achievement of students.
- To compare the Traditional Teaching Method and Experiential learning approach.

**Hypothesis of the study:**

1. There is no statistical change of students exposed to the experiential learning approach.
2. There is no statically significant difference in the academic achievement of student taught
3. There is no significant difference in learning outcomes between experiential learning approach ad Traditional Teaching in urban areas.
4. There is no statistically significant difference in learning outcomes between experiential learning approach ad Traditional Teaching in rural areas.

**Literature Review:**

Justo and Di Biasio (2006) conducted a study to explore whether experiential learning environments prepare our students for self direction and life- long learning related skills. The researchers employed

three different methods were used to compare the progress in lifelong learning through these methods. An experiential interdisciplinary projects program, called the Global studies program, increased readiness for self-directed learning (SDL). The life-long learning (LLL) using: a nationally recognized course evaluation system called the Individual Development and Educational Assessment system (IDEA); an internal student project quality assessment protocol; and the Self-Directed Learning Readiness Scale (SDLRS) were used. Students taught Global studies program reported much greater progress in life- long learning related skills in comparison to national and local groups. Global Studies Program students constantly outscored on campus project students in life- long learning related measures by wide margins. Self-directed learning students also showed positive results in global studies program. The research findings supported the success of experiential learning environment in promoting Self-directed learning and life- long learning skills.

Lee (2008) conducted a study to compare increased level of students learning in classroom environment and industry based

experiential learning environment.

Hospitality curricula in the form of industry-based experiential learning were incorporated to complement the classroom environment. The findings of research supported that experiential learning benefits the students learning outcomes in the form of increased understanding about functioning of organization, enhancing ability to take initiative, increased ability to adapt to change, increased leadership skills. In addition to this statistically significant difference was found between student perceptions of learning in the classroom and their perceptions of learning in experiential learning experiences.

Abdulwahed and Nagy (2009) conducted a study on applying Kolb's experiential learning cycle for laboratory education on a sample of undergraduate students at the Chemical Engineering Department at Loughborough University, United Kingdom. Experimental group was taught through modern teaching technologies and a combination of remote, virtual, and hands on laboratory sessions. Results of study supported that poor learning in the laboratory is due to insufficient activation of hands-on experience. Significant enhancement of the

learning outcomes of the experimental group in comparison to control group was found in research. Researcher strongly proposed apart from the hands-on session, provision for additional activities, such as pre and post lab tests and virtual laboratory sessions, associated with Kolb's cycle assist in constructivist learning.

Lee (2010) conducted a study on „Simulation games: Shifting from conceptual learning to experiential learning to assess the teaching and learning experience and benefits. Difference of opinion existed about the effectiveness (or ineffectiveness) of incorporating simulation games into learning environments. Objective of study was to verify the viability of shift from Conceptual Learning (or learning by 'listening') to Experiential Learning (or learning by 'doing'). An anecdotal case study based on experiences of using simulation games in a module imparted at the University of Hertfordshire, UK, was employed in order to measure the teaching and learning experiences and benefits. Teaching staff initially expressed mixed opinion regarding the teaching and learning outcomes from using simulation games. Findings revealed as all levels of the objectives achieved when

compared with Bloom's taxonomy of educational objectives.

Chan (2012) conducted a study on the theme exploring an experiential learning project through Kolb's learning theory using a qualitative research method. The findings stated that Experiential learning pedagogy took a lead in the development of graduate qualities and educational aims as these are of prime importance for society. The study was based on community service experiential project in China. In the study students were asked to serve the affected community in a post-earthquake area by applying their knowledge and skills. Students' learning process was documented based on their project goals, pre-trip preparations, work progress, obstacles encountered to the final results and reflection. Focus group interview approach was employed to collect data. The four components of Kolb's learning cycle showed transformation in student's learning experience, achieving a range of learning outcomes. In addition to these students experienced deep learning had developed their graduate qualities while doing community service through experiential learning.

Okechukwu (2013) investigated the effects of experiential learning strategy on secondary school students' achievement in Biology. Design of study employed a non-equivalent control group quasi experimental design. The sample for the study comprised of 74 students from class I. Sample was randomly selected as two intact classes from two co-education school in Awka urban area of Anambra State of Nigeria. One was assigned to the treatment group while the remaining school was assigned to the control group. The treatment group was taught Biology through experiential learning strategy while the control group was taught the same concepts in biology using the traditional strategy. A Biology Achievement Test (BAT) was employed for the collection of data. Data were studied using mean, standard deviation and the Analysis of Co-variance. The result proved that experiential learning is superior to the conventional strategy in improving students' achievement in Biology whereas no significant difference was found because of gender.

Hill (2017) conducted a study on experiential learning in nursing education. The objective of this research was to find out effect of innovative pedagogical strategies on higher

education lecturer teaching qualification. The sample for the study was mixed group of 15 post- registration nurses, physiotherapists and paramedics. The module was part theory and part practical. For this the modules were redesigned to find out the evidence on teaching styles and the way in which students learn and gain knowledge. The duration of experiment was over 3 months. Each session had a theoretical PowerPoint of the anatomy and physiology along with 1-hour practice session to apply the acquired knowledge. Focus of study was on the experiential learning style. The findings showed that there are numerous internal and external factors that affect teaching and student learning. Experiential learning has proved a successful teaching pedagogy when applied to clinical skill acquisition and has positively aided the module delivery and pass rate, suggesting it has embedded „deep learning“. Students“ feedback was positive, and the redesigned module has had positive effect on student engagement and the teacher–student interaction.

So above literatures consistently support the effectiveness of experiential learning in enhancing academic performance, engagement, and skill development.

However, there remains need for empirical studies focusing specifically on higher secondary education. That’s why present study attempts to address this research gap through empirically examining the effectiveness of the experiential learning approach in teaching education at the higher secondary level.

### **Research Methodology:**

The present study used an experimental design with a quasi-experimental procedure to evaluate the effectiveness of experiential approach to teaching education to students of eleventh standard. The control group were instructed using traditional teaching method, whereas the experimental group was instructed using the experiential learning approach. Participants were arbitrarily allocated to both groups to ensure fairness in the study.

### **Sampling:**

Current study consists with 100 11<sup>th</sup> standard students, selected from three government schools in North 24 Parganas district, West Bengal. who had opted education as one of the elective subjects.

### **Tools Used:**

The researcher prepared a lesson strategy based on an experiential learning approach.

An achievement test in education of 20 marks was also developed by the researcher and used for pre- and post-test data collection to measure students' achievement before and after the teaching.

## Data Collection:

To gather data, a pre-test was conducted for both the experimental groups and control group before the instructional intervention.

The control group was taught using the conventional teaching method, whereas the experimental group received instruction through the experiential learning approach. After the receipt of instructions, a post-test was arranged for both groups.

## Statistical Methods:

For data analysis researcher used mean, standard deviation (S.D.), and t-test

## Data Analysis and Interpretation:

**Table 1**

**Efficacy of Experiential learning approach on the accomplishment in Education**

| Group              | Test      | N  | Mean  | SD   | t-value |
|--------------------|-----------|----|-------|------|---------|
| Experimental Group | Pre-Test  | 50 | 41.20 | 6.85 | 18.74   |
|                    | Post-Test | 50 | 72.45 | 7.12 |         |

df=49

From the analysis of Table 1, it was found that the obtained t-value was 18.74, and the analysis showed that the experiential learning approach produced a highly significant increase in academic achievement. The mean score of the post-test (M=72.45) was notably higher than the mean score of the pre-test (M=41.20). The computed t value ( $t=18.74$ ,  $df=49$ ) is far above the table t value at both

0.05 and 0.01 significant levels, indicating that the improvement is statistically significant. Therefore, the assumption "There is no significant difference in the mean pre-test and post-test scores of the experimental group," is denied. This suggest that the experimental group demonstrated remarkable improvement from pre-test (M=41.20)

**Table 2**

**Pre-test Comparison of Experimental group and control group**

| Group              | Test     | N  | Mean  | SD   | t- value |
|--------------------|----------|----|-------|------|----------|
| Controlled Group   | Pre test | 50 | 42.10 | 6.78 | 0.18     |
| Experimental Group | Pre test | 50 | 41.85 | 6.92 |          |

df=98

Table 2, shows that the pre-test mean scores of the experimental group (m=41.85, SD=6.92) and control group (m=42.10, sd=6.78) did not differ significantly (t=0.18), confirming that both groups were academically equivalent prior to the invention.

**Table 3**

**Post -test Comparison of Experimental group and control group**

| Group              | Test      | N  | Mean  | SD   | t- value |
|--------------------|-----------|----|-------|------|----------|
| Controlled Group   | Post test | 50 | 55.30 | 6.95 | 11.96    |
| Experimental Group | Post test | 50 | 72.45 | 7.12 |          |

df=98

Table 3 reveals that the obtained t value is 11.96. The comparison of post-test performance shows students taught through the experiential learning approach (m=72.45, sd=7.12) outperformed their counterparts exposed to the traditional teaching method (m=55.30, sd=6.95). The computed t value of 11.96 exceeds the critical value at both 0.05 significance levels, indicating statistically significant.

**Table 4**

**Post-test Comparison of experiential teaching method and Tradition Teaching (Rural area)**

| Group              | Test      | N  | Mean  | SD   | t- value |
|--------------------|-----------|----|-------|------|----------|
| Controlled Group   | Post test | 20 | 55.20 | 7.00 | 8.80     |
| Experimental Group | Post test | 20 | 73.10 | 7.45 |          |

df=38

Table 4 shows that the obtain t value is 8.80, which is greater than the table value at the 0.01 level of significance. The difference between two groups is statistically significant at the 0.01 level, suggesting experimental treatment is more effective.



**Table 5**

## Post-test Comparison of Experiential teaching method and Traditional Teaching in urban areas

| Group              | Test      | N  | Mean  | SD   | t- value |
|--------------------|-----------|----|-------|------|----------|
| Control Group      | Post test | 30 | 55.20 | 7.10 | 10.85    |
| Experimental Group | Post test | 30 | 72.95 | 7.35 |          |

df=58

From the analysis of table 5, the calculated t-value (10.85) is highly greater than the critical value at the 0.01 level of significance, indicating a statistically significant difference in post-test academic achievement between urban students taught through the experiential learning approach and those taught through the traditional teaching method.

### Findings of the study:

The following conclusions were made after a thorough examination and interpretation of the data gathered:

1. The Experiential learning approach has a considerable influence on pupils' academic outcomes.
2. The experimental group's average scores differ significantly. So, it suggests that pupils who are taught using the Experiential learning of Instruction have better academic outcomes.

3. The experimental group's average scores differ significantly; Experiential learning of instruction had substantially different in the post test from the control group. This suggests that pupil who are taught using Experiential Learning of instruction have better academic outcomes.

4. The experimental group, which received instruction using the experiential learning approach, had mean post-test scores that were statistically different. Therefore, the experiential learning of instruction is more efficacious than the traditional teaching method in urban and rural areas.

5. The analysis confirms that while both the experimental and control group initial performed at similar levels, students exposed to the experiential learning approach demonstrated significantly higher academic achievement in the post test, therefore, the experiential learning approach is much efficacious than the traditional teaching

method in brightening academic achievement.

**Conclusion:**

Experiential learning offers courses and training programs that help professionals acquire new skills and refines them and learners can pursue qualification and courses that align with their career advancement. A student-centered instructional strategy implemented through structured, guided and open experience phases can make teaching education process more interesting. The educationist and the teacher should encourage students to be creative, so that they can think critically and solve their problem skillfully. To make easy this transformation, educators require support through continuous specialized hands-on teaching strategies concentrated on the experiential learning approach. Besides this, it is also major step to highlight this instructional strategy in distinct textbooks. Formal training for educators concentrated on the Experiential learning approach is necessary and vital for teaching.

**Impact Statement:**

This research study demonstrated that experiential learning approach has performed better performance than the traditional classroom in terms of sharpening critical

thinking and improving problem-solving for higher secondary students. Experimental group students posted higher averages on posttest than the control group. This suggest that experiential learning teaching approaches helps close gap between theory and hand on work-like turning textbook diagrams into lab skills. So, it is reassuring that tech supported learning can widen access to quality education.

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